

Translation

PATENT COOPERATION TREATY

PCT

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY
(Chapter II of the Patent Cooperation Treaty)

(PCT Article 36 and Rule 70) ..

527,826

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PCT/JP2003/012486



Applicant's or agent's file reference T759.SBP-10	FOR FURTHER ACTION See Form PCT/IPEA/416	
International application No. PCT/JP2003/012486	International filing date (day/month/year) 30 September 2003 (30.09.2003)	Priority date (day/month/year) 30 September 2002 (30.09.2002)
International Patent Classification (IPC) or national classification and IPC C12P 7/62, C08G 63/90 // (C12P 7/62, C12R1:01)		
Applicant KANEKA CORPORATION		

1. This report is the international preliminary examination report, established by this International Preliminary Examining Authority under Article 35 and transmitted to the applicant according to Article 36.
2. This REPORT consists of a total of 5 sheets, including this cover sheet.
3. This report is also accompanied by ANNEXES, comprising:
 - a. ☐ (sent to the applicant and to the International Bureau) a total of _____ sheets, as follows:
 - ☐ sheets of the description, claims and/or drawings which have been amended and are the basis of this report and/or sheets containing rectifications authorized by this Authority (see Rule 70.16 and Section 607 of the Administrative Instructions).
 - ☐ sheets which supersede earlier sheets, but which this Authority considers contain an amendment that goes beyond the disclosure in the international application as filed, as indicated in item 4 of Box No. I and the Supplemental Box.
 - b. ☐ (sent to the International Bureau only) a total of (indicate type and number of electronic carrier(s)) _____, containing a sequence listing and/or tables related thereto, in computer readable form only, as indicated in the Supplemental Box Relating to Sequence Listing (see Section 802 of the Administrative Instructions).

4. This report contains indications relating to the following items:

- | | |
|---|---|
| <input checked="" type="checkbox"/> Box No. I | Basis of the report |
| <input type="checkbox"/> Box No. II | Priority |
| <input type="checkbox"/> Box No. III | Non-establishment of opinion with regard to novelty, inventive step and industrial applicability |
| <input type="checkbox"/> Box No. IV | Lack of unity of invention |
| <input checked="" type="checkbox"/> Box No. V | Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement |
| <input type="checkbox"/> Box No. VI | Certain documents cited |
| <input type="checkbox"/> Box No. VII | Certain defects in the international application |
| <input type="checkbox"/> Box No. VIII | Certain observations on the international application |

Date of submission of the demand 05 April 2004 (05.04.2004)	Date of completion of this report 28 July 2004 (28.07.2004)
Name and mailing address of the IPEA/JP	Authorized officer
Facsimile No.	Telephone No.

INTERNATIONAL PRELIMINARY REPORT ON PATENTABILITY

International application No.

PCT/JP2003/012486

Box No. I Basis of the report

1. With regard to the language, this report is based on the international application in the language in which it was filed, unless otherwise indicated under this item.

☐ This report is based on translations from the original language into the following language _____, which is language of a translation furnished for the purpose of:

- ☐ international search (under Rules 12.3 and 23.1(b))
☐ publication of the international application (under Rule 12.4)
☐ international preliminary examination (under Rules 55.2 and/or 55.3)

2. With regard to the elements of the international application, this report is based on *(replacement sheets which have been furnished to the receiving Office in response to an invitation under Article 14 are referred to in this report as "originally filed" and are not annexed to this report)*:

☒ The international application as originally filed/furnished

☐ the description:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the claims:

pages _____, as originally filed/furnished

pages* _____, as amended (together with any statement) under Article 19

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ the drawings:

pages _____, as originally filed/furnished

pages* _____ received by this Authority on _____

pages* _____ received by this Authority on _____

☐ a sequence listing and/or any related table(s) – see Supplemental Box Relating to Sequence Listing.

3. ☐ The amendments have resulted in the cancellation of:

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

4. ☐ This report has been established as if (some of) the amendments annexed to this report and listed below had not been made, since they have been considered to go beyond the disclosure as filed, as indicated in the Supplemental Box (Rule 70.2(c)).

☐ the description, pages _____

☐ the claims, Nos. _____

☐ the drawings, sheets/figs _____

☐ the sequence listing (*specify*): _____

☐ any table(s) related to sequence listing (*specify*): _____

* If item 4 applies, some or all of those sheets may be marked "superseded."

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.
PCT/JP 03/12486

V. Reasoned statement under Article 35(2) with regard to novelty, inventive step or industrial applicability; citations and explanations supporting such statement

1. Statement

Novelty (N)	Claims	3, 4, 6, 10	YES
	Claims	1, 2, 5, 7-9	NO
Inventive step (IS)	Claims		YES
	Claims	1-10	NO
Industrial applicability (IA)	Claims	1-10	YES
	Claims		NO

2. Citations and explanations

Document 1: WO 96/06178 A1 (Zeneca Ltd.), 29 February 1996, examples, & JP 10-504459 A & US 5952460 A

Document 2: US 5292860 A (Kaneka Corp.), 08 March 1994, & JP 05-093049 A & EP 0533144 A2

Document 3: US 4358583 A (Imperial Chemical Ind. PLC), 09 November 1982, & JP 57-065193 A & EP 0046017 A2

Claims 1, 2, 5 and 7-9

Document 1 discloses a method for recovering the polyhydroxyalkanoic acid (PHA) polymers from a suspension that contains PHA particles, wherein a cell sample that has been subjected to a thermal shock at a pH level of 6.5 is adjusted to a pH level of 7 and is thereafter subjected to a treatment by means of hydrogen peroxide (refer to the examples). Therein, document 1 indicates that said cell sample originates in a microorganism of the family *Alcaligenes eutrophus*, and that said cell sample includes a 3-hydroxybutylate (HB) / 3-hydroxyvalerate (HV) copolymer. In the light of the fact that it is necessary to add an alkali to the sample in order to adjust the pH level from 6.5 to 7, it is impossible to differentiate the inventions that are set forth in claims 1, 2, 5 and 7-9

from the inventions that are disclosed in document 1. Consequently, the inventions that are set forth in claims 1, 2, 5 and 7-9 lack novelty and do not involve an inventive step in the light of document 1.

Claim 3

It would be easy for a person skilled in the art to configure the invention that is set forth in claim 3 by setting an optimal range for the concentration of the hydrogen peroxide in the invention that is disclosed in document 1. Consequently, the invention that is set forth in claim 3 does not involve an inventive step in the light of document 1.

Claims 4 and 6

Document 2 discloses a method for producing a copolymer that comprises 3-hydroxyhexanoate by means of a microorganism from the genus *Aeromonas*. It would be easy for a person skilled in the art to substitute the PHA in the invention that is disclosed in document 1 with the copolymer that is disclosed in document 2, which is a PHA that is obtained from a microorganism of the same genus. Consequently, the inventions that are set forth in claims 4 and 6 do not involve an inventive step in the light of documents 1 and 2.

Claim 10

Document 3 discloses a method for separating poly (β -hydroxy butyric acid) from an aqueous suspension which includes microorganisms that contain poly (β -hydroxy butyric acid), wherein the microorganisms in the aqueous suspension are flocculated via at least one step from among a step wherein the aqueous suspension is treated by means of an alkali and a step wherein the aqueous suspension is heated. It would be easy for a person

INTERNATIONAL PRELIMINARY EXAMINATION REPORT

International application No.

PCT/JP 03/12486

skilled in the art to substitute the feature of subjecting the aqueous suspension to a thermal shock with the feature of treating the aqueous suspension by means of an alkali in the method that is disclosed in document 1; consequently, the invention that is set forth in claim 10 does not involve an inventive step in the light of documents 1 and 3.